ARIZONA GAME AND FISH DEPARTMENT
HABITAT PARTNERSHIP COMMITTEE
HABITAT ENHANCEMENT AND WILDLIFE MANAGEMENT PROPOSAL

Game Branch / HPC Project Number:	14-525

PROJECT INFORMATION

Project Title: Johnny Lyon Hills #1 North Water Catchment

Region and Game Management Unit: Region V / GMU 32

Local Habitat Partnership Committee (LHPC):	**Was the project presented to the LHPC?**
Safford HPC	**YES**[X] **NO**[]

Has this project been submitted in previous years? YES[] **NO**[X]
If Yes, was it funded? YES[] **NO**[] → **Funded HPC Project #(s)**:

Project Type: New Wildlife Water Development

Brief Project Summary:
The construction of a new 10,000 gallon wildlife water catchment in the Johnny Lyon Hills. This is planned to be the first of two new water catchments to be built in the Johnny Lyon Hills. The objectives of these new water catchments are to provide a permanent water source for wildlife in this small mountain range where water can be a limiting resource, especially during the months of March, April, May and June.

The project will consist of installing four 2,500 gallon polyethylene storage tanks, 24x72 foot metal frame and R-panel apron, 5x8x4 foot walk-in drinker and a 150x150 foot pipe-rail, wildlife friendly enclosure fence.

Big Game Wildlife Species to Benefit: Mule Deer and Javelina

Implementation Schedule (Month/Day/Year):

Project Start Date:
January 2016

Project End Date:
March 2017

Environmental Compliance:
NEPA Completed: Yes[] No[] N/A[X]
Projected Completion Date: State Trust Lands

State Historic Preservation Office - Archaeological Clearance:
Yes[] No[] N/A[]
Projected Completion Date: To be completed by Joe Currie

Arizona Game and Fish Department EA Checklist: N/A[]
To be Completed by: To be completed by Joe Currie
Projected Completion Date: _____

PROJECT FUNDING

Special Big Game License Tag Funds Requested:	**$** 30,580.00
Cost Share or Matching Funds:	**$** 32,000.00
Total Project Costs:	**$ 62,580.00**

PARTICIPANT INFORMATION		
Applicant (please print): John Bacorn (AGFD)	**Address**: AZ Game and Fish Dept.	**E-mail**: jbacorn@azgfd.gov
Telephone: 520-591-1485	555 N. Greasewood Tucson, AZ 85705	**Date**: July 8, 2014
AGFD Contact and Phone No. (If applicant is not AGFD personnel):		
Project has been coordinated with: Joe Currie (AGFD), Terry Herndon (MDF), Cody Hatfield (ASLD).		

NEED STATEMENT – PROBLEM ANALYSIS:

Arizona has been in various stages of drought for the last 15 years and according to some Climatologists, the predicted future will likely see continued drought conditions. Drought and human activities have caused the lowering of the water table, which has resulted in the disappearance and/or unreliability of springs, cienegas, perennial streams, dirt stock tanks and even artesian wells. Although precipitation is the main factor affecting deer nutrition and subsequent reproduction in the Southwest, having adequate available water sources in close proximity to deer habitat is also of critical importance. Research has shown that mule deer will shift their area of activity or even move out of their home range when water sources are no longer available. After the monsoons, these deer often return to their home range. During the later stages of pregnancy, lack of free standing water can place extra stress on does and force them to travel extra distance to free standing water. At minimum water sources should not be more than 3 miles apart or having adequate water sources within 1.5 miles of mule deer habitat. In rougher terrain or during times of dry periods, adequate spacing may be more appropriate within 1 mile of mule deer habitat (Habitat Guidelines for Mule Deer: Southwest Deserts Ecoregion).

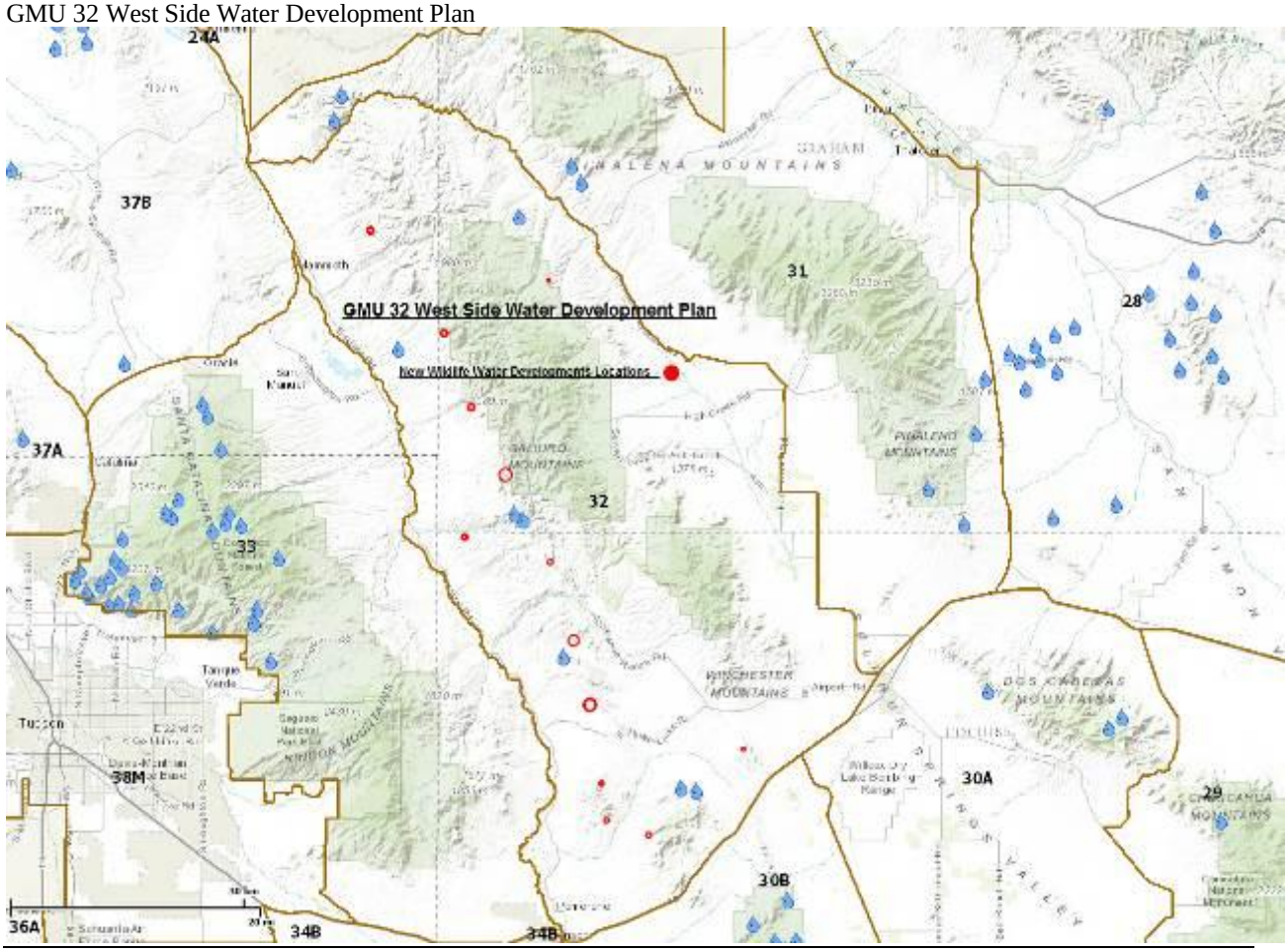
In the vicinity of the Johnny Lyon Hills and Little Dragoon Mountains, there are several dirt tanks and livestock piped waters. But due to current drought conditions the dirt tanks are no longer providing a dependable water source for wildlife especially during the summer months prior to the onset of the monsoon season and most of the livestock waters depend upon water being hauled to the storage, therefore these livestock waters are not a dependable year-round wildlife water source.

In the past, Game Management Unit (GMU) 32 provided amble hunter opportunity for Mule deer and Javelina. With various factors occurring and mainly all associated with the current drought conditions, big game populations have declined. In the early 1990's, GMU 32 offered 1600 Mule deer permits since then the number of permits have steadily declined. Since 2011 the number of Mule deer permits available in GMU 32 has been around 700. Mule deer, White-tailed deer and Javelina populations have been declining during the last 15 years, the number of big game animals observed during annual big game surveys show the result of the declining populations as well as the decline in the number of big game permits being offered.

Number Of Deer and Javelina Observed Per Hour During Winter Fixed-Wing and Helicopter Surveys In GMU 32			
Year	Mule Deer	White-Tailed Deer	Javelina
2005-06	66	44	37
2006-07	43	41	41
2007-08	45	39	11
2008-09	26	30	19
2009-10	28	23	24
2010-11	24	39	29
2011-12	36	32	28
2012-13	32	30	18
2013-14	30	35	29

A landscape scale, water development plan is being considered for the west side of GMU 32. Within the next 10 years, the plan is to build 10-12 new wildlife water catchments along the west side of the GMU.

GMU 32 West Side Water Development Plan



PROJECT OBJECTIVES:

- To provide adequate and dependable water source for wildlife, year round throughout adequate Mule deer and Javelina habitat.
- To increase deer and Javelina populations by providing a dependable, long-term, self-sustaining, quality water source.
- To install a water system that will have a long lifespan (25-50 years).
- To install a water system with sufficient capacity that will not require supplemental water hauling, except in rare or exceptional circumstances.
- To install a water system that will be accessible and require minimal maintenance.
- To increase hunter opportunity.
- To periodically monitor the wildlife use of this water using remote digital game cameras.

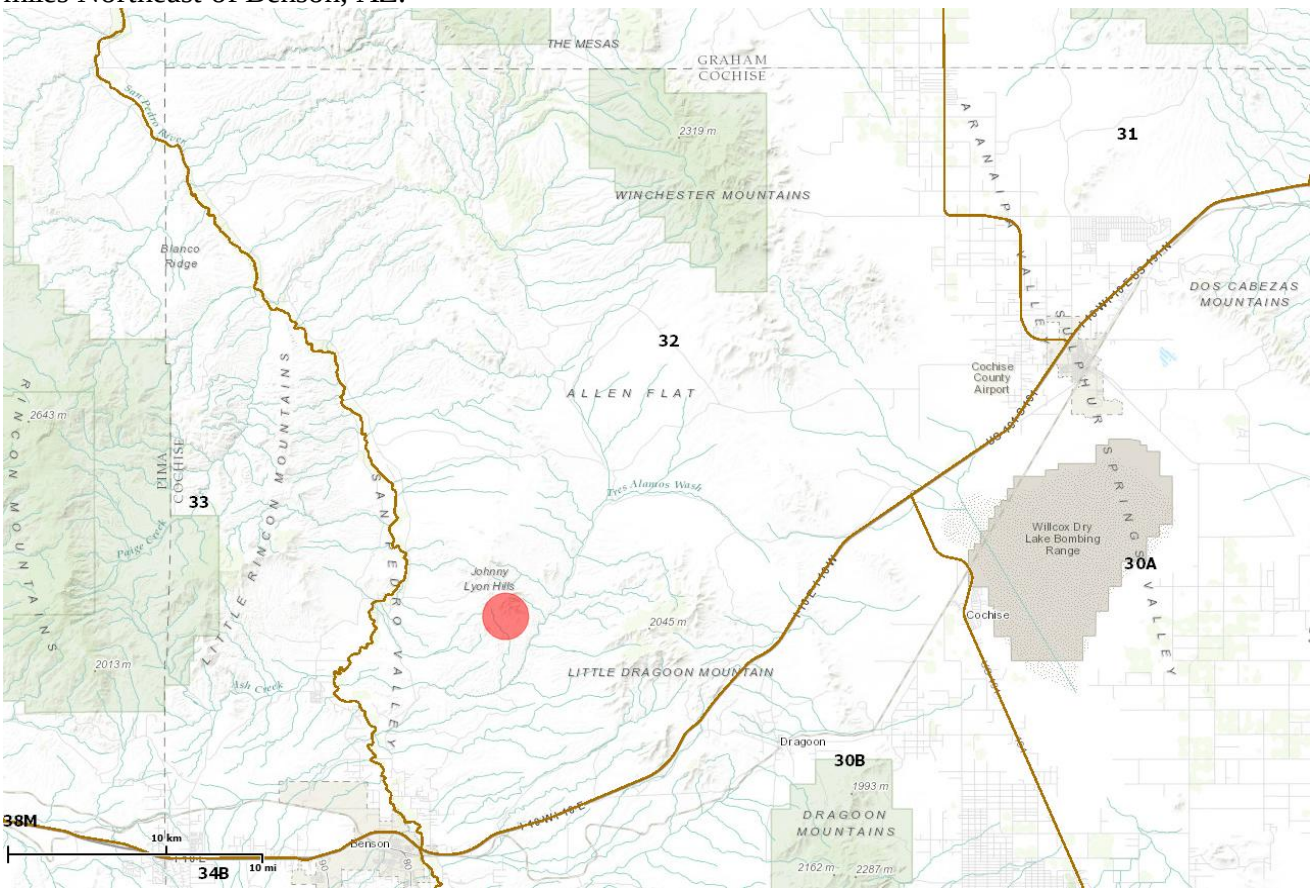
PROJECT DESCRIPTION AND STRATEGIES:

Construct a precipitation collecting wildlife water catchment utilizing four 2,500 gallon polyethylene storage tanks, 24x72 foot metal frame and R-panel apron, 5x8x4 foot walk-in drinker and installing a wildlife friendly 150x150 foot pipe-rail enclosure fence.

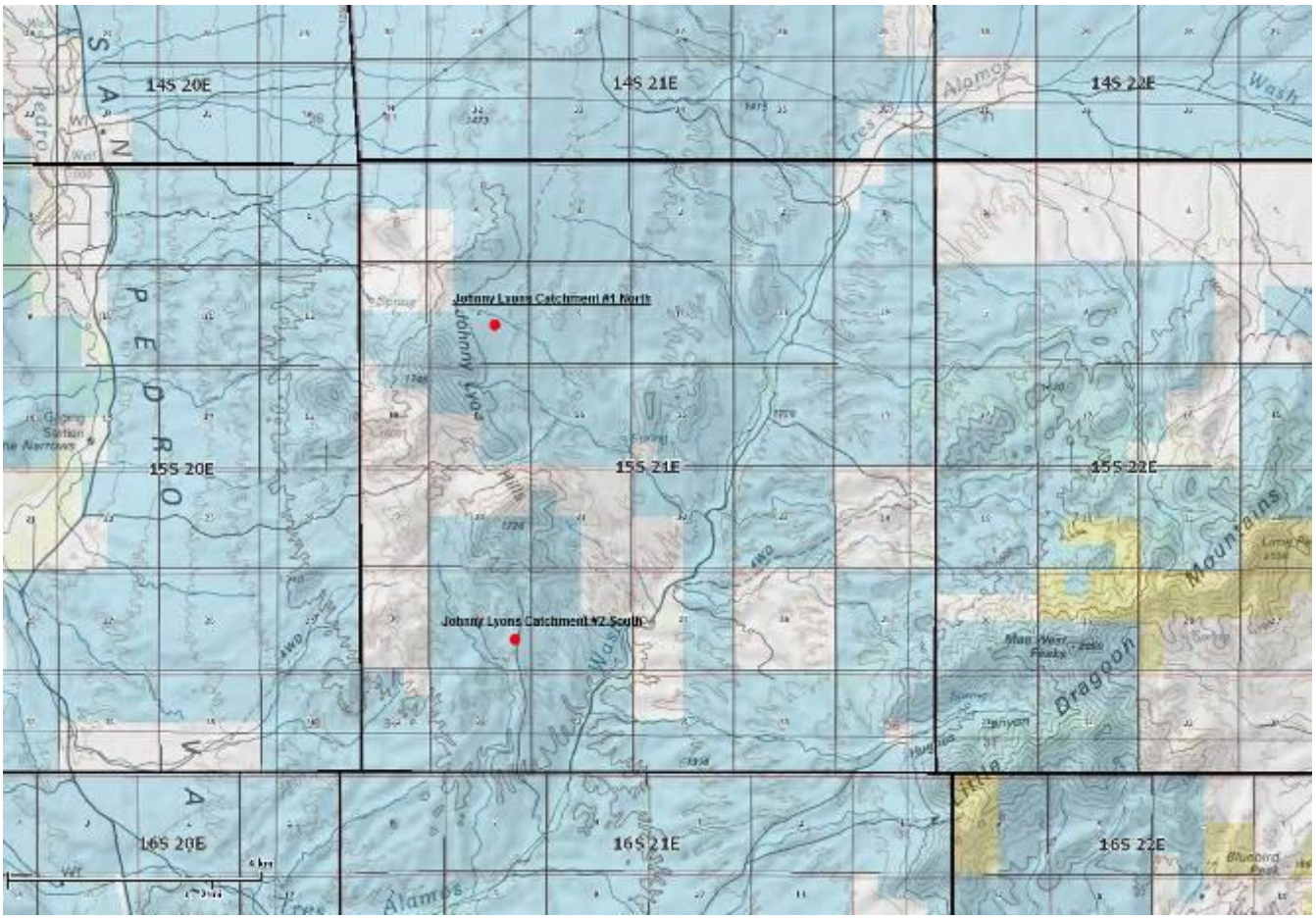
Two HPC proposals will be submitted for 2 new wildlife water developments in the Johnny Lyon Hills. Materials for both projects are hoped to be purchased with HPC funds and construction labor will be contracted out for both water developments using Federal Pitman-Robertson (PR) funds.

PROJECT LOCATION:

The location is in Region V, Cochise County, Southwestern portion of GMU 32, approximately 12 miles Northeast of Benson, AZ.



Project location is on State Trust Lands, Townships 15S, 21E, Section 8.



LAND OWNERSHIP AT THE PROJECT SITE(S)*:*
(if the project area is <u>private property,</u> please state specifically and provide the landowner's name)

- Project site is located on State Trust Lands and access is adequate to the site.

IF PRIVATE PROPERTY, IS THERE A COOPERATIVE BIG GAME STEWARDSHIP or LANDOWNER AGREEMENT BETWEEN THE LANDOWNER AND THE DEPARTMENT?
YES[] NO[] N/A[X]

HABITAT DESCRIPTION:
The project area can best be described as desert scrub with elevations between 4400-4800 feet on a Northeastern slope. NRCS soil website describes the ecological site as Granite Uplands and Granite Hills. Dominate shrubs are mesquite (Prosopis) with catclaw (Acacia) and Desert Ceanothus (Ceanothus greggii) growing in the higher elevations. A few scrub oak (Quercus Turbenella) and juniper (Juniperus) dot the landscape at the higher elevations.

Photo of vegetation community at project site.

ITEMIZED USE OF FUNDS:
Special Big Game License Tag Funds
HPC Funds requested $30,580.00

Cost Share or Matching Funds (*for volunteer labor rates please refer to the worksheet below*)
Contract for labor utilizing Federal (PR) Funds $32,000.00

Item	Dimensions	HPC Funds	Cost Share Funds	Total Costs
Polyethylene Water Storage Tanks	2500 gallons (4)	$13,280.00		$13,280.00
R-Panel Precipitation Apron	24'X72'	$7,296.00		$7,296.00
Polyethylene Walk-in Trough	5'x8'x4	$4,698.00		$4,698.00
Pipe-Rail Fence Enclosure	150'X150'	$3,056.00		$3,056.00
PVC Plumbing		$1,000.00		$1,000.00
Miscellaneous Materials		$750.00		$750.00
Monitoring Trail Camera		$500.00		$500.00
Contract Labor			$30-32,000.00	
Totals		$30,580.00	$32,000.00	**$62,580.00**

LIST COOPERATORS AND DESCRIBE POTENTIAL PARTICIPATION:
On May 20, 2014, John Bacorn (AGFD), Joe Currie (AGFD) and Terry Herndon (MDF) conducted a site visit to the project location.

WOULD IMPLEMENTATION OF THIS PROJECT ASSIST IN PROVIDING, MAINTAINING, OR FACILITATING RECREATIONAL ACCESS?
YES[] NO[] N/A[X]

PROJECT MONITORING PLAN:
Monitoring will be conducted by AGFD Wildlife Managers; water levels will be monitored at least twice a year with emphasis during the drier months of the year (April-June). Remote digital camera may be used to monitor density and frequency of wildlife.

PROJECT MAINTENANCE:
The maintenance of each catchment will be the responsibility of the AGFD. The Wildlife Manager will be responsible for minor maintenance issues and AGFD responsible for any major issues.

PROJECT COMPLETION REPORT TO BE FILED BY:
John Bacorn and/or Joe Currie

WATER DEVELOPMENT PROJECTS (*please use the worksheet below***):**

ARIZONA GAME AND FISH DEPARTMENT
WATER DEVELOPMENT WORKSHEET

PROJECT TITLE: Johnny Lyon Hills #1 North Water Catchment

1) Is the water development listed as a priority in the most recent "Wildlife Water Development Annual Implementation Schedule?" No

2) Please list the Development Branch personnel and date coordinated with for this project.
May 20, 2014 (Joe Currie)

3) What is the estimated annual inches of precipitation for the area? (mark one)
[]2-4 []4-6 []6-8 []8-10 []10-12 [X]12-14 []14-16 []>16

4) Is there a perennial water source available to big game within four miles of this project?

YES[X] (please complete #5 below) NO[] (skip #5 below)

5) For the accessible, perennial water source nearest this project:
Name of water source: Keith Home Ranch Well
Type of water source (catchment, spring, dirt tank): well
Ownership of water source: Private
Distance in miles from project: 1.5
(the water trough is located inside a wood corral where wildlife may be hesitant to use and according to the rancher the well is unreliable and water has had to be hauled to the site during the summer.)

Photo of Keith Home corrals and trough.

6) Is the target wildlife species a result of transplant efforts? YES[] NO[X]

7) Please list any special land management status for the project site (i.e. Wilderness, National Park, National Monument). If private land, list landowner.
None, project site is located on AZ State Trust lands.

8) Please provide the following information about access to the proposed site:
Type of access (mark one): []2x4 vehicles [X]4x4 only []foot only**

**If foot access only: Distance in miles: _____ Approximate hiking time: _____

-- Does access to this site require crossing private or tribal lands? YES[] NO[]

-- Please describe any restrictions to public access:

9) Please list below (or on a separate sheet) the <u>material type and dimensions</u> of each component proposed to be added, modified, or repaired.
1) r-Panel precipitation apron with metal frame (24'X72')
2) Polyethylene 2500 gallon water storage tanks (4)
3) Polyethylene walk- in drinker (5x5x4)
4) Pipe-rail fence (150'x150')

10) Was a site visit completed? Yes[X] No[]
If Yes, please list personnel that attended and date.
John Bacorn (AGFD), Joe Currie (AGFD) and Terry Herndon (MDF) May 20, 2014.